S. Devi

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1600

RAW SEQUENCE LISTING DATE: 10/22/2003
PATENT APPLICATION: US/09/612,925E TIME: 07:41:55

Input Set : N:\Crf4\10072003\I612925E.raw
Output Set: N:\CRF4\10222003\I612925E.raw

<110> APPLICANT: Cano, Carlos Antonio Durante
Nieto, Enrique Gerardo Guillen
Acosta, Anabel Alvarez
Munoz, Luis Emilio Carpio
Vazquez, Diogenes Quintana
Rodriguez, Carmen Elena Gomez
Rodriguez, Recardo de la Caridad Siva
Galvez, Consuelo Nazabal
Angulo, Maria de Jesus Leal
Dunn, Alejandro Miguel Martin
<120> TITLE OF INVENTION: Expression System of Heterologous Antigens as Fusion Proteins
<130> FILE REFERENCE: LEXSA P-13DIV2
C--> **<140> CURRENT APPLICATION NUMBER: US/09/612,925E**
<141> CURRENT FILING DATE: 2000-07-10
<150> PRIOR APPLICATION NUMBER: US 08/930,917
<151> PRIOR FILING DATE: 1997-09-16
<150> PRIOR APPLICATION NUMBER: PCT/CU97/00001
<151> PRIOR FILING DATE: 1997-01-17
<160> NUMBER OF SEQ ID NOS: 30
<170> SOFTWARE: PatentIn version 3.2
<210> SEQ ID NO: 1
<211> LENGTH: 1797
<212> TYPE: DNA
<213> ORGANISM: Neisseria meningitidis (group B)
<400> SEQUENCE: 1

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ctgattactt tggaaaccga taaagcgact atggacgtac ctgctgaagt tgcaggccta 180
gtcaaagaag ttaaagttaa agtcggcgac aaaatctctg aaggtggttt gattgtcgtc 240
gttgaagctg aaggcacggc agccgctcct aaagccgaag cggctgccgc cccggcgcaa 300
gaagccccta aagctgccgc tcctgctccg caagccgcgc aattcggcgg ttctgccgat 360
gccgagtacg acgtggtcgt attgggtggc ggtcccggcg gttactccgc tgcatttgcc 420
cctgccgatg aaggcttgaa agtcgccatc gtcgaacgtt acaaaacttt gggcggcgtt 480
tgcctgaacg tcggctgtat cccttccaaa gccttgttgc acaatgccgc cgttatcgac 540
gaagtgcgcc acttggctgc caacggtatc aaataccccg agccggaact cgacatcgat 600
atgcttcgcg cctacaaaga cggcgtagtt tcccgcctca cgggcggttt ggcaggtatg 660
gcgaaaagcc gtaaagtgga cgttatccaa ggcgacgggc aattcttaga tccgcaccac 720
ttggaagtgt cgctgactgc cggcgacgcg tacgaacagg cagcccctac cggcgagaaa 780
aaaatcgttg ccttcaaaaa ctgtatcatt gcagcaggca gccgcgtaac caaactgcct 840
ttcattcctg aagatccgca catcatcgat tccagcggcg cattggctct gaaagaagta 900
ccgggcaaac tgctgattat cggcggcggc attatcagcc tcgagatggg tacggtttac 960
agcacgctgg gttcgcgttt ggatgtggtt gaaatgatgg acggcctgat gcaaggcgca 1020
gaccgcgatt tggtaaaagt atggcaaaaa caaaacgaat accgttttga caacattatg 1080

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Input Set : **N:\Crf4\10072003\I612925E.raw**
Output Set: **N:\CRF4\10222003\I612925E.raw**

gtcaacacca aaaccgttgc agttgagccg aaagaagacg gcgtttacgt tacctttgaa 1140
ggcgcgaacg cgcctaaaga gccgcaacgc tacgatgccg tattggttgc cgccggccgc 1200
gcgcccaacg gcaaactcat cagcgcggaa aaagcaggcg ttgccgtaac cgatcgcggc 1260
ttcatcgaag tggacaaaca aatgcgtacc aatgtgccgc acatctacgc catcggcgac 1320
atcgtcggtc agccgatgtt ggcgcacaaa gccgttcacg aaggccacgt tgccgccgaa 1380
aactgcgccg gccacaaagc ctacttcgac gcacgcgtga ttccgggcgt tgcctacact 1440
tcccccgaag tggcgtgggt gggcgaaacc gaactgtccg ccaaagcctc cggccgcaaa 1500
atcaccaaag ccaacttccc gtgggcggct tccggccgtg cgattgccaa cggttgcgac 1560
aacggcttta ccaagctgat ttttgatgcc gaaaccggcc gcatcatcgg cggcggcatt 1620
gtcggtccga acggtggcga tatgatcggc gaagtctgcc ttgccatcga aatgggctgc 1680
gacgcggcag acatcggcaa aaccatccac ccgcacccga ccttgggcga atccatcggt 1740
atggcggcgg aagtggcatt gggtacttgt accgacctgc ctccgcaaaa gaaaaaa 1797

<210> SEQ ID NO: 2
<211> LENGTH: 47
<212> TYPE: PRT
<213> ORGANISM: Neisseria meningitidis (group B)
<400> SEQUENCE: 2

Met Val Asp Lys Arg Met Ala Leu Val Glu Leu Lys Val Pro Asp Ile
1 5 10 15
Gly Gly His Glu Asn Val Asp Ile Ile Ala Val Glu Val Asn Val Gly
20 25 30
Asp Thr Ile Ala Val Asp Asp Thr Leu Ile Thr Leu Asp Leu Glu
35 40 45

<210> SEQ ID NO: 3
<211> LENGTH: 146
<212> TYPE: DNA
<213> ORGANISM: Neisseria meningitidis (group B)
<400> SEQUENCE: 3

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taccctgatt actttggatc tagaaa 146

<210> SEQ ID NO: 4
<211> LENGTH: 18
<212> TYPE: PRT
<213> ORGANISM: Neisseria meningitidis (group B)
<400> SEQUENCE: 4

Val Asn Val Gly Asp Thr Ile Ala Val Asp Asp Thr Leu Ile Thr Leu
1 5 10 15
Asp Leu

<210> SEQ ID NO: 5
<211> LENGTH: 18
<212> TYPE: PRT
<213> ORGANISM: Neisseria meningitidis (group B)
<400> SEQUENCE: 5

Val Glu Val Gly Ser Lys Ile Tyr Val Asp Asp Gly Leu Ile Ser Leu
1 5 10 15
Gln Val

<210> SEQ ID NO: 6
<211> LENGTH: 32

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Input Set : N:\Crf4\10072003\I612925E.raw
Output Set: N:\CRF4\10222003\I612925E.raw

99 <212> TYPE: PRT
100 <213> ORGANISM: Neisseria meningitidis (group B)
101 <400> SEQUENCE: 6
102 Leu Val Glu Leu Lys Val Pro Asp Ile Gly Gly His Glu Asn Val Asp
103 1 5 10 15
104 Ile Ile Ala Val Glu Val Asn Val Gly Asp Thr Ile Ala Val Asp Asp
105 20 25 30
107 <210> SEQ ID NO: 7
108 <211> LENGTH: 32
109 <212> TYPE: PRT
110 <213> ORGANISM: Neisseria meningitidis (group B)
111 <400> SEQUENCE: 7
112 Leu Arg Glu Val Gln Val Pro Asp Arg Lys Leu His Lys Gly Val Gln
113 1 5 10 15
114 Leu Leu Ala Gly Glu Leu Gly Ile Gly Glu Ala Leu Gln Val Asp Asp
115 20 25 30
117 <210> SEQ ID NO: 8
118 <211> LENGTH: 162
119 <212> TYPE: PRT
120 <213> ORGANISM: Neisseria meningitidis (group B)
121 <400> SEQUENCE: 8
122 Met Val Asp Lys Arg Met Ala Leu Val Glu Leu Lys Val Pro Asp Ile
123 1 5 10 15
124 Gly Gly His Glu Asn Val Asp Ile Ile Ala Val Glu Val Asn Val Gly
125 20 25 30
126 Asp Thr Ile Ala Val Asp Asp Thr Leu Ile Thr Leu Asp Leu Asp Ser
127 35 40 45
128 Arg Gly Ile Arg Ile Gly Pro Gly Arg Ala Ile Leu Ala Thr Ala Gly
129 50 55 60
130 Gly Gly Ala Arg Gln Ser Thr Pro Ile Gly Leu Gly Gly Ala Leu Tyr
131 65 70 75 80
132 Thr Thr Ala Gly Gly Gly Ala Arg Lys Ser Ile Thr Lys Gly Pro Gly
133 85 90 95
134 Arg Val Ile Tyr Ala Thr Ala Gly Gly Gly Ala Arg Lys Arg Ile His
135 100 105 110
136 Ile Gly Pro Gly Arg Ala Phe Tyr Thr Thr Ala Gly Gly Gly Ala Arg
137 115 120 125
138 Lys Arg Ile Thr Met Gly Pro Gly Arg Val Tyr Tyr Thr Thr Ala Gly
139 130 135 140
140 Gly Gly Ala Ser Ile Arg Ile Gln Arg Gly Pro Gly Arg Ala Phe Val
141 145 150 155 160
142 Thr Ile
144 <210> SEQ ID NO: 9
145 <211> LENGTH: 489
146 <212> TYPE: DNA
147 <213> ORGANISM: Neisseria meningitidis (group B)
148 <400> SEQUENCE: 9
149 atggtagata aaagaatggc tttagttgaa ttgaaagtgc ccgacattgg cggacacgaa 60
150 aatgtagata ttatcgcggt tgaagtaaac gtgggcgaca ctattgctgt ggacgatacc 120

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Input Set : N:\Crf4\10072003\I612925E.raw
Output Set: N:\CRF4\10222003\I612925E.raw

ctgattactt tggatctaga ctcgagaggc attcgtatcg gcccaggtcg cgcaatttta 180
gcaacagctg gcggtggcgc acgtcaatct acccctattg gtttaggtca ggctctgtat 240
acgactgccg gcggtggtgc gcgcaaaagt atcaccaagg gtccaggccg cgtcatttac 300
gccaccgcgg gcggcggtgc ccgtaagcgt atccacattg gcccaggccg tgcattctat 360
actacagcag gtggtggcgc acgtaaacgc atcactatgg gtcctggtcg cgtctattac 420
acgaccgctg gcggcggtgc tagcattcgc atccaacgcg gccctggtcg tgcatttgtg 480
accatatga 489

<210> SEQ ID NO: 10
<211> LENGTH: 47
<212> TYPE: PRT
<213> ORGANISM: Neisseria meningitidis (group B)
<400> SEQUENCE: 10

Met	Leu	Asp	Lys	Arg	Met	Ala	Leu	Val	Glu	Leu	Lys	Val	Pro	Asp	Ile
1				5				10						15	
Gly	Gly	His	Glu	Asn	Val	Asp	Ile	Ile	Ala	Val	Glu	Val	Asn	Val	Gly
			20					25					30		
Asp	Thr	Ile	Ala	Val	Asp	Asp	Thr	Leu	Ile	Thr	Leu	Glu	Thr	Asp	
		35					40					45			

<210> SEQ ID NO: 11
<211> LENGTH: 27
<212> TYPE: DNA
<213> ORGANISM: Artificial
<220> FEATURE:
<223> OTHER INFORMATION: Primer 5' No. 1573
<400> SEQUENCE: 11
ttccatggta gatamagmtg gctttag 27

<210> SEQ ID NO: 12
<211> LENGTH: 29
<212> TYPE: DNA
<213> ORGANISM: Artificial
<220> FEATURE:
<223> OTHER INFORMATION: Primer 3' No. 1575
<400> SEQUENCE: 12
tttctagatc caaagtaatc agggtatcg 29

<210> SEQ ID NO: 13
<211> LENGTH: 26
<212> TYPE: DNA
<213> ORGANISM: Artificial
<220> FEATURE:
<223> OTHER INFORMATION: Primer 3' No. 2192
<400> SEQUENCE: 13
ggcggttctg ccgattaagg atccga 26

<210> SEQ ID NO: 14
<211> LENGTH: 146
<212> TYPE: DNA
<213> ORGANISM: Artificial
<220> FEATURE:
<223> OTHER INFORMATION: Derived fragment from the first 47 amino acids of the P64k antigen of N. meningitidis. The restriction sites NcoI

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Input Set : N:\Crf4\10072003\I612925E.raw
Output Set: N:\CRF4\10222003\I612925E.raw

(positions 3 to 8) and XbaI (positions 139 to 144) are introduced by PCR, which provokes changes in the nucleotide sequence of this

<400> SEQUENCE: 14
ttccatggta gataaaagaa tggctttagt tgaattgaaa gtgcccgaca ttggcggaca 60
cgaaaatgta gatattatcg cggttgaagt aaacgtgggc gacactattg ctgtggacga 120
taccctgatt actttggatc tagaaa 146

<210> SEQ ID NO: 15
<211> LENGTH: 47
<212> TYPE: PRT
<213> ORGANISM: Artificial
<220> FEATURE:
<223> OTHER INFORMATION: Stabilizer fragment derived from the first 47 amino acids of the P64k antigen of N. meningitidis

<400> SEQUENCE: 15
Met Val Asp Lys Arg Met Ala Leu Val Glu Leu Lys Val Pro Asp Ile
1 5 10 15
Gly Gly His Glu Asn Val Asp Ile Ile Ala Val Glu Val Asn Val Gly
20 25 30
Asp Thr Ile Ala Val Asp Asp Thr Leu Ile Thr Leu Asp Leu Glu
35 40 45

<210> SEQ ID NO: 16
<211> LENGTH: 16
<212> TYPE: DNA
<213> ORGANISM: Artificial
<220> FEATURE:
<223> OTHER INFORMATION: Oligonucleotide used to introduce restriction sites XbaI, EcoV, and BamHI in the 3' end of the stabilizer fragment of SEQ. ID. NO. 13

<400> SEQUENCE: 16
ctagatttga tatcag 16

<210> SEQ ID NO: 17
<211> LENGTH: 16
<212> TYPE: DNA
<213> ORGANISM: Artificial
<220> FEATURE:
<223> OTHER INFORMATION: Oligonucleotide used to introduce restriction sites XbaI, EcoV, and BamHI in the 3' end of the stabilizer fragment of SEQ. ID. NO. 13

<400> SEQUENCE: 17
gatcctgata tcaaat 16

<210> SEQ ID NO: 18
<211> LENGTH: 15
<212> TYPE: PRT
<213> ORGANISM: Human immunodeficiency virus type 1

<400> SEQUENCE: 18
Ser Arg Gly Ile Arg Ile Gly Pro Gly Arg Ala Ile Leu Ala Thr
1 5 10 15

<210> SEQ ID NO: 19
<211> LENGTH: 15

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 10/22/2003
PATENT APPLICATION: **US/09/612,925E** TIME: 07:41:56

Input Set : **N:\Crf4\10072003\I612925E.raw**
Output Set: **N:\CRF4\10222003\I612925E.raw**

Invalid Line Length:
The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 11
Seq#:14; Line(s) 203
Seq#:15; Line(s) 217
Seq#:16; Line(s) 232
Seq#:17; Line(s) 243
Seq#:26; Line(s) 318
Seq#:27; Line(s) 329
Seq#:28; Line(s) 357
Seq#:29; Line(s) 388
Seq#:30; Line(s) 424

Invalid <213> Response:
Use of "Artificial" only as "<213> Organism" response is incomplete,
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:11,12,13,14,15,16,17,26,27,28,29,30

VERIFICATION SUMMARY DATE: 10/22/2003
PATENT APPLICATION: **US/09/612,925E** TIME: 07:41:56

Input Set : **N:\Crf4\10072003\I612925E.raw**
Output Set: **N:\CRF4\10222003\I612925E.raw**

L:13 M:270 C: Current Application Number differs, Wrong Format